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20*a*, side view.) E. mediocre, diametro duplo longiore; semicellulis pyramidalibus, basi dilatatis utroque margine laterali semel sinuatis, in lobum polare rectum truncatum attenuatis, apice crenato-rotundatis; lobo polari uno et lobo basali duobus vel tribus tumoribus instructo, cytiodermate subtillissimo punctato. Diam. et lat. .0013″, long. .0026″.

Hab. Ponds near Bethlehem, Pa.

DOCIDIUM SPINULOSUM, *n. sp.* (Plate VI., Fig. 21, a semicell.) D. valdidum spinulosum subcylindricum undulatum octies—decies longius quam latius, medio valde constrictum; semicellularum stricturis margine 3–4 plus minus prominentibus, modice attenuatis; cytiodermate dense spinifero; spinulis apicis rotundatis duplo majoribus aliis. Diam. .0016″—.0018.″

Hab. Pond, Dennisville, N. J., July, 1880.

Pleurotaenium nodulosom, Bréb., *Docidium hirsutum*, Bailey, and *D. nodosum*, Bailey, have features in common with this form. I separate it because of the armor of spines with which it is clothed. These are not hairs—not gelatinous contractions, but decided spines, and those of the ends of the cells are longer and stronger than those on the body of the cell.

§ 2. New or Little-Known Ferns of the United States. No. 9.

28. CYSTOPTERIS MONTANA, Bernh.—When I had occasion to describe this fern in the "Ferns of N. America" it had not been found anywhere in the United States, the American range being from Labrador to the Rocky Mountains of British America. In Rothrock's report I ventured to say that it might possibly occur in California or Colorado. Last summer it was found in Colorado by Mr. T. S. Brandegee, on the Mt. Antero Spur of the Sawatch Range, at 10,400 feet above the sea. Mr. Brandegee writes that "two colonies of it grow there twenty feet apart in damp moss about the roots of *Abies Engelmanni.* The fern has a very slender creeping rootstock, and the scattered fronds are from three to five inches long, broadly ovate-pentagonal in outline, and very delicately three to four times pinnate. The species occurs in the mountains of Europe, from Scotland and Norway to the Appenines and the Carpathians.

29. ASPIDIUM ACULEATUM, var. PROLIFERUM, Wollaston (*sub Polysticho angulari*). This is the most delicate and finely divided form of the species; a large frond of it is figured on plate 13 of Moore's "Nature-printed Ferns." The character given by Moore reads thus: "Fronds lanceolate, lax, bi- or tri-pinnate ; pinnules narrow, attenuated, distinctly stalked, usually deeply lobed with the lobes widely separated ; proliferous on the rachis." This form has been found in two or three places in England, and is very common in cultivation. Not long ago it was sent me from Chicago marked "Californian." I learn that it was found in company with a narrow form of the less divided var. *lobatum* by Mrs. A. E. Kent, of San Rafael, who writes that " it is very abundant in the southern part of California, and is commonly called "San Diego fern." It is somewhat strange that none of the San Diego botanists has sent it here; but now that it is reported it is to be hoped they will search for it.

The great delicacy of the very narrow ultimate pinnules will render its identification easy. I have noticed no proliferous buds on the Californian specimens, but otherwise they are precisely like the cultivated plant.

30. PELLAEA ANDROMEDAEFOLIA, var. PUBESCENS, Baker.—This form, incidentally mentioned in the "Ferns of North America," is very rare in collections. It has been found near San Diego by Prof. Wood ; in the mountains near "Live-Oak Creek" by the botanists of the Mexican Boundary Survey ; and recently, on the San Francisco Mountain, in Arizona, by Rev. E. L. Greene. Mr. H. H. Rusby has also collected it somewhere in Arizona or New Mexico, and through an error of mine has distributed it as *P. flexuosa.* In general, the pinnules are larger than in the smooth forms of *P. andromedaefolia*, and often more cordate ; the rachises are finely pubescent and almost glandular, and the frond shows such an approach toward the characters of *P. flezuosa* that one might easily be in doubt to which species a specimen should be referred. The real *P. flexuosa* has the primary pinnae more or less deflexed, often very much so, and occurs with the rachis either smooth or pubescent.

New Haven, Dec. 13, 1880. D. C. EATON.

§ 3. **A New Asclepias from Arizona.**—In the early days of September, 1880, while enjoying a botanical excursion among the San Francisco Mountains, in the extreme eastern part of Arizona, I noticed growing among the rocks, under the pine trees, clumps of a bush which I should certainly have passed by as mere pine bushes, but for the fact that they bore, toward the extremities of their pine-leaved branches, the follicles of a silkweed. I gathered into my portfolio a goodly number of these follicle-bearing branches, on one of which I was glad to notice a few undeveloped and withered flower-buds. Carefully preserving these, I afterwards soaked them out and found this remarkable shrub to be a genuine *Asclepias.*

On revisiting the locality, on the first day of November, I was surprised to find the bushes enjoying a second season of flowering. The species appear to be most nearly related to *A. Linaria*, Cav., of Central and Southern Mexico ; but it differs from that altogether, in floral character, as also in habit, being wholly shrubby and strictly evergreen, and the leaves persisting, as in many pines, until the autumn of the second year. In November, 1880, the leaves which had put forth in the spring of 1879, were yellow and ready to fall ; all the rest were bright and firmly persistent. The woody stems, even to near the base, bear the scars of the fallen foliage of preceding years, just as do the branches of pines. The half hardened wood of the present year's growth has the milky juice of the genus in general ; but it is not found in the older wood. I append to this record of its discovery, the specific character of this most interesting new species, with the name which its appearance most readily suggests.

ASCLEPIAS PINIFOLIA.—Stems three feet high, branching, slender and shrubby, the young branchlets somewhat puberulent ; evergreen leaves alternate, much crowded, narrowly linear, an inch or more long, with revolute margins and ending in a sharp callous point ; umbels rather few, on peduncles much shorter than the leaves, and